EVault Software

Image Plug-in 7.3

User Guide

Contents

1   Introduction to the Image Plug-in

To back up Windows volumes as images, install the Image Plug-in with the 64-bit Windows Agent. Unlike the Windows Agent, which enumerates and backs up individual files and folders during a backup, the Image Plug-in sequentially backs up all blocks on a volume. Because backups with the Image Plug-in require significantly less processing than backups with the Windows Agent, the time required for a backup can be significantly reduced.

After the first "seed" backup of a volume, in which all data from the volume is sent to the vault, the Image Plug-in uses Changed Block Tracking to determine which blocks have changed. In subsequent Image backups, the Plug-in only reads and backs up changed blocks to the vault.

When creating an Image backup job, you can select specific volumes to back up, or create a Bare Metal Restore (BMR) job that backs up all volumes, partitions, and data required for restoring a system to new hardware. See Add an Image backup job.

You can restore entire volumes and specific files and folders from Image backups. See Restore Windows volumes from an Image backup and Restore files and folders from an Image backup. You can also use the EVault System Restore application to restore systems from Image Plug-in BMR backups to new hardware. For more information, see the *EVault System Restore User Guide.*

You can use the Image-Plug-in only on supported 64-bit Windows operating systems with the NTFS file system. The Plug-in supports both UEFI and BIOS, and MBR and GPT disks. For a complete list of supported platforms, see the Windows Agent release notes.

Image Plug-in Feature Summary

- Backs up volumes as images, which significantly reduces the amount of time required for a backup

- Backs up volumes from UEFI-based or BIOS-based systems. Restores volumes from UEFI-based system backups to UEFI-based systems, and restores volumes from BIOS-based system backups to UEFI-based or BIOS-based systems.

- Backs up system volumes, data volumes, or both in a single job

- Restores entire volumes to live volumes, or mounts a safeset so you can restore specific files and folders

- Creates Bare Metal backups that can be restored using EVault System Restore

- Managed using EVault Portal

  Note: You cannot manage Image Plug-in backups and restores using the legacy Web CentralControl or Windows CentralControl interfaces.

For more information, see the EVault Portal help and the Windows Agent release notes.

2 Add an Image backup job

After a Windows computer with the Image Plug-in is added and configured in Portal, you can create an Image backup job. In an Image backup job, you can select:

- Specific volumes to back up

- The Bare Metal Restore (BMR) option, to back up volumes that are needed to boot up the system after a system recovery. A BMR backup includes the volume where the operating system is installed, the EFI system partition (ESP) on a UEFI-based system, or the volume with the master boot record (MBR) on a BIOS-based system. In a disaster recovery situation, you can use the EVault System Restore application to restore systems from BMR backups.

  Note: BMR backup jobs can also be created using the Windows Agent without the Image Plug-in. Regardless of how a BMR backup was created, you can restore the backup using EVault System Restore.

To back up the volumes, you can run the backup job manually, and schedule the backup job to run. See Run and schedule backups.

In a seed backup, the Image Plug-in processes data for every block on a volume— even blocks that are empty. The amount of data reported in the backup log for a seed backup could be larger than the amount of data actually on the volumes.

Note: If the Image Plug-in was installed silently, the machine must be restarted before the Plug-in can use Changed Block Tracking (CBT) to identify data that has changed since a previous backup. Without CBT, the Agent reads all data on a volume before backing up the changed blocks.

To add an Image backup job:

1. On the navigation bar, click **Computers**.

   The Computers page shows registered computers.

2. Find a Windows computer with the Image Plug-in, and click the computer row to expand its view.

   If a backup job has not been created for the computer, the system can attempt to create a backup job automatically. However, this job will not use the Image Plug-in. To create an Image backup job, click **Configure Manually**. To automatically create a default Windows Agent backup job for the computer, click **Auto Configure**.

3. Click the **Jobs** tab.

   If a valid vault connection is not available for the computer, you cannot access the **Jobs** tab. You must add a vault connection before you can create a job.   For more information, see the Portal online help.

4. In the **Select Job Task** list, click **Create New Image Job**.

   The **Create New Job** dialog box appears.

5. In the **Create New Job** dialog box, specify the following information:

   - In the **Name** box, type a name for the backup job.

   - In the **Description** box, optionally type a description for the backup job.

   - In the **Destination** list, select the vault where you want to save the backup data.

   - In the **Log File Options** list, select the level of detail for job logging.

     Note: For Image Plug-in jobs, the selected logging level does not affect the content of the logs.

   - If the **Encryption Settings** list appears, select the encryption method for storing the backup data. Select **None** if you do not want to encrypt the stored data.

   - If the backup data will be encrypted, enter an encryption password in the **Password** and **Confirm Password** boxes. You can also enter a password hint in the **Password Hint** box.

6. In the **Select Volumes for Backup** box, do one of the following:

   - To back up specific volumes, select the check box for each volume that you want to back up.

   - To back up volumes that are needed to boot up the system after a system recovery, select the **Bare Metal Restore** check box.

> *Note:* In addition to restoring systems from Bare Metal Restore (BMR) backups using the EVault System Restore application, you can restore specific volumes, files, and folders from BMR backup jobs.

7. Click **Create Job.**

   The job is created, and the **View/Add Schedule** dialog box appears. You can now create a schedule for running the backup. Click **Cancel** if you do not want to create a schedule at this time.

   For information about how to run and schedule the backup job, see <u>Run and schedule backups</u>.

2.1   Edit a backup job

You can edit existing backup jobs to change the following settings:

- Items to back up. In an Image backup job, you can add or remove volumes, or select or clear the Bare Metal Restore option.

- Log file options

- Encryption settings.

  IMPORTANT: If you change the encryption type or password for a backup job, the job will reseed the next time it runs.

- Job description

Note: You cannot change the name or destination of a job.

To edit a backup job:

1. On the navigation bar, click **Computers**.

   The Computers page shows registered computers.

2. Find the computer with the job that you want to edit, and expand its view by clicking its row.

3. Click the **Jobs** tab.

4. Do one of the following:

   - In the **Name** column, click the name of the job that you want to edit.

   - In the **Select Action** list of the job that you want to edit, click **Edit Job**.

   The **Edit Job** dialog box shows the current job settings.
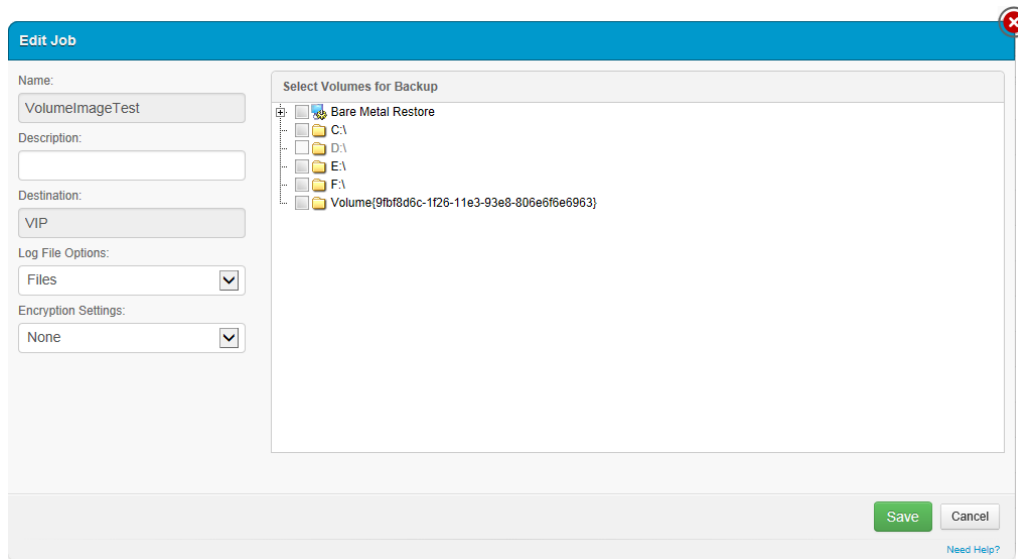
5. Do one or more of the following:

    *   In the **Description** box, type a description for the backup job.

    *   In the **Log File Options** list, select the level of detail for job logging.

        Note: For Image Plug-in jobs, the selected logging level does not affect the content of the logs.

    *   If the **Encryption Settings** list appears, select the encryption method for storing the backup data. Select **None** if you do not want to encrypt the stored data. If the backup data will be encrypted, enter an encryption password in the **Password** and **Confirm Password** boxes. You can also enter a password hint in the **Password Hint** box.

    *   In the box that shows items for backup, select items to back up.

6. Click **Save**.

3   Run and schedule backups

After a backup job is created, you can run it manually (ad-hoc) at any time, and schedule it to run.

When running or scheduling a backup, you can specify the following settings:

- Retention type. The retention type specifies the number of days a backup is kept on the vault, how many copies of a backup are stored online, and how long backup data is stored offline.

- Deferring. When deferring is enabled, the backup job does not back up any new data after the specified deferral time and commits the safeset to the vault, even if some data in the job is not backed up. Changes to data that was previously backed up will be backed up, regardless of the deferral time.

  When the job runs again, the Agent checks for changes in data that was previously backed up, backs up those changes, and then backs up the remaining data.

  If an Image backup job is deferred while a volume is being backed up, the backup for the volume is incomplete and data from the volume cannot be restored. However, you can restore volumes, and files and folders from volumes that were completely backed up in the job before the job was deferred.

When you schedule a job to run, you can also set the compression level for the data. The compression level optimizes the volume of data sent to the vault against the speed of transmission. The default compression level is usually the optimal setting.

After running a backup, you can view logs to check whether the backup completed successfully. See View process logs.

3.1   Create a schedule for a backup job

After creating a job, you can create one or more schedules for running the job automatically.

To create a schedule for a backup job:

1. Do one of the following:

   - On the navigation bar, click **Computers**. Find the computer with the backup job that you want to schedule, and click the computer row to expand its view. On the **Jobs** tab, find the job that you want to schedule. In its **Select Action** list, click **View/Add Schedule**.

   - Create a new backup job. The **View/Add Schedule** dialog box appears when you save the job.

2. In the **View/Add Schedule** dialog box, click **Add Schedule**.

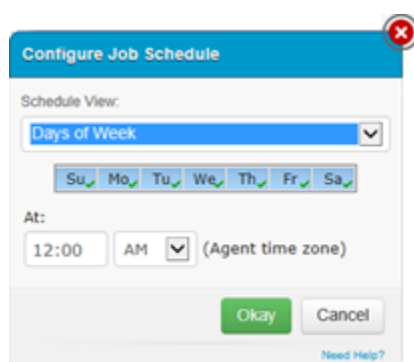   A new row appears in the dialog box.

3. In the new schedule row, in the **Retention** list, click a retention type.

    The retention type specifies the number of days a backup is kept on the vault, how many copies of a backup are stored online, and how long backup data is stored offline.

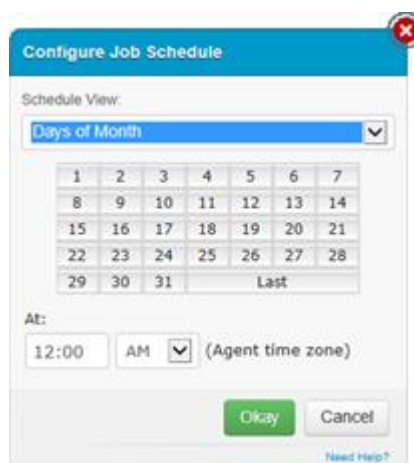4. In the **Schedule** box, click the arrow.

    The **Configure Job Schedule** dialog box opens.

5. In the **Configure Job Schedule** dialog box, do one of the following:

    *   To run the backup on specific days each week, in the **Schedule View** list, click **Days of Week**. Select the days when you want to run the job. Then use the **At** fields to specify the time when you want to run the job.


    *   To run the backup on specific dates each month, click **Days of Month** in the **Schedule View** list. On the calendar, select the dates when you want to run the job. Then use the **At** fields to specify the time when you want to run the job.

    *   To create a custom schedule, click **Custom** in the **Schedule View** list. In the **Custom Cycle** dialog box, enter a custom schedule. Be sure to follow the format and notation as described.
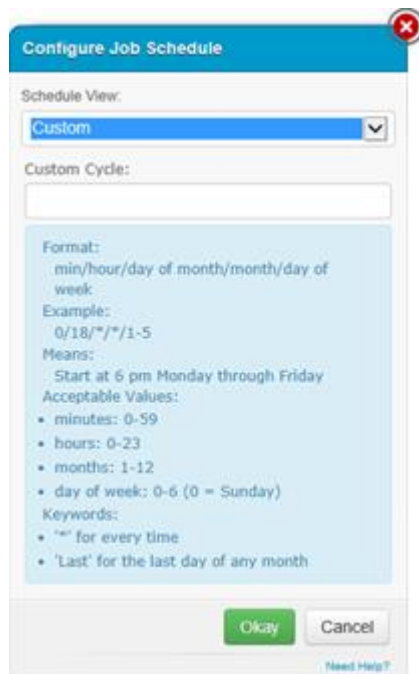
6. Click **Okay**.

   The new schedule appears in the **Schedule** box.

7. In the **Compression** list, click a compression level for the backup data.

   The compression level for backup data optimizes the volume of data sent to the vault against the speed of transmission.

8. Do one of the following:

   - To allow the backup job to run without a time limit, click **None** in the Deferring list.

   - To specify a maximum amount of time that the backup job can run, click **Minutes** or **Hours** in the **Deferring** list. In the adjacent box, type the maximum number of minutes or hours that the job can run.

   Note: When deferring is used, the backup job does not back up any new data after the specified amount of time, even if some data is not backed up. Changes to data that was previously backed up will be backed up, regardless of the deferral time.

9. To run the job on the specified schedule, select the **Enable** checkbox near the end of the row.

10. If there is more than one schedule row, you can use the **Priority** arrows to change the order of the schedule rows. Schedules higher in the list have a higher priority than schedules lower in the list.

    If a job is scheduled to run at the same time by multiple schedules, the job only runs once at the scheduled time. If the schedules have different retention types, the job only runs with the retention type in the highest schedule in the list.

11. Click **Save**.

3.2   Perform an ad-hoc backup

After a backup job is created, you can run the backup at any time, even if the job is scheduled to run at specific times.

To perform an ad-hoc backup:

1. On the navigation bar, click **Computers**.

   A grid lists available computers.

2. Find the computer with the backup job that you want to run, and expand its view by clicking the computer row.

3. Click the **Jobs** tab.

4. Find the job that you want to run, and click **Run Job** in its **Select Action** list.

   The **Run Job** dialog box shows the default settings for the backup.

   Note: Beginning at this point, you can click **Start Backup** to immediately start the job. If you prefer, you can change backup options before running the job.

5. To back up the data to the vault specified in the job, do not change the **Destination**.

   To back up the data to SSI (safeset image) files on disk, select **Directory on Disk** from the **Destination** list. Click the **Browse** button. In the **Select Folder** dialog box, choose the location where you want to save the SSI files, and click **Okay**.

   SSI files are full backups saved to disk instead of to a vault. It can be quicker to save backup files on physical media and transport them to a remote vault for importing, than to back up data directly to a vault in a remote datacenter.

6. In the **Retention Scheme** list, click a retention type.

   The retention type specifies the number of days a backup is kept on the vault, how many copies of a backup are stored online, and how long backup data is stored offline.

7. Do one of the following:

   - To allow the backup job to run without a time limit, clear the **Use Deferring** checkbox.

   - To specify a maximum amount of time that the backup job can run, select the **Use Deferring** checkbox. From the **Backup time window** list, select **Minutes** or **Hours**. In the adjacent box, type the maximum number of minutes or hours that the job can run.

Note: When deferring is used, the backup job does not back up any new data after the specified amount of time, even if some data is not backed up. Changes to data that was previously backed up will be backed up, regardless of the deferral time.

8. Click **Start Backup**.

   The **Process Details** dialog box shows the backup progress, and indicates when the backup is completed.

9. If you want to stop the backup, click **Stop**.

10. Click **Close**.

4   Restore from Image Plug-in backups

After backing up volumes from a Windows server using the Image Plug-in, you can restore:

- Entire volumes. See Restore Windows volumes from an Image backup.

- Specific files and folders from the volumes. See Restore files and folders from an Image backup.

- Systems from BMR backups, and volumes from BMR or non-BMR backups using the EVault System Restore application. For more information, see the *EVault System Restore User Guide.*

Note: If you back up a volume that includes mount points, when you restore or mount the volume, the mount points will point to the original mount location.

4.1   Restore Windows volumes from an Image backup

After backing up a volume from a Windows computer using the Image Plug-in, you can restore the volume from the backup to a selected live volume (target volume) on the computer.

IMPORTANT: When you restore a volume from a backup, any data on the target volume will be lost.

The target volume must meet the following requirements:

- The target volume must be as large as or larger than the volume that was backed up.

- The Windows operating system cannot be installed on the target volume.

- The Windows Agent cannot be installed on the target volume.

After a restore, the system considers the target volume to be the size of the volume that was restored. For example, after you restore a 1 TB volume to a 2 TB target volume, the system sees the target as a 1 TB volume. Any remaining space on the target volume will not be usable.

To restore a Windows volume from an Image backup:

1. On the navigation bar, click **Computers**.

   A grid lists available computers.

2. Find the Windows computer with the Image Plug-in, and expand its view by clicking the computer row.

3. Click the **Jobs** tab.

4. Find the Image backup job with volumes that you want to restore, and click **Restore** in the job's **Select Action** list.

Note: You can restore volumes from regular or Bare Metal Restore backups created using the Image Plug-in.

5. In the **Image Restore** dialog box, select **Entire Data Volume(s)**, and then click **Continue**.
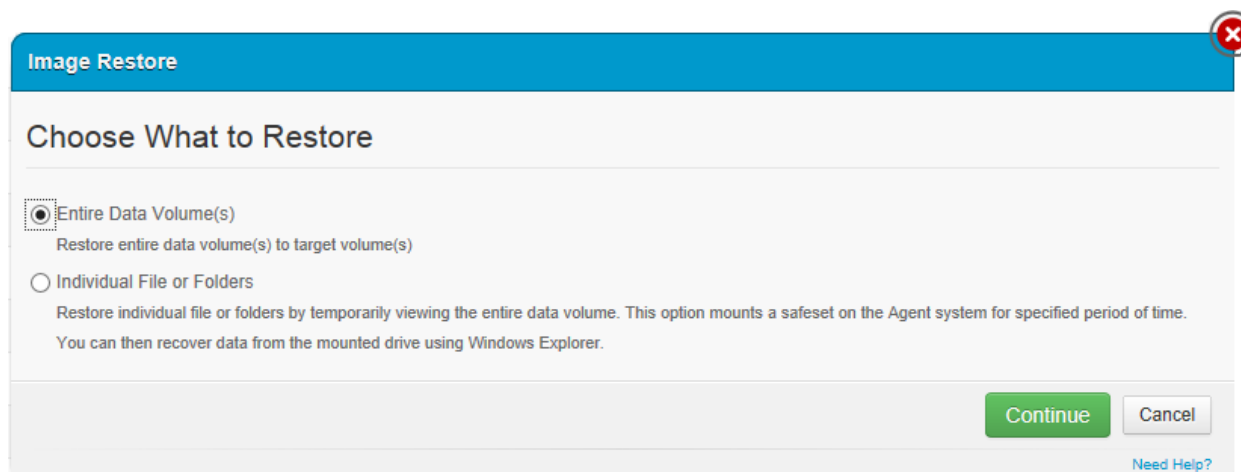
The **Restore** dialog box shows volumes that can be restored from the backup. The most recent safeset for the job appears in the **Safeset** box.
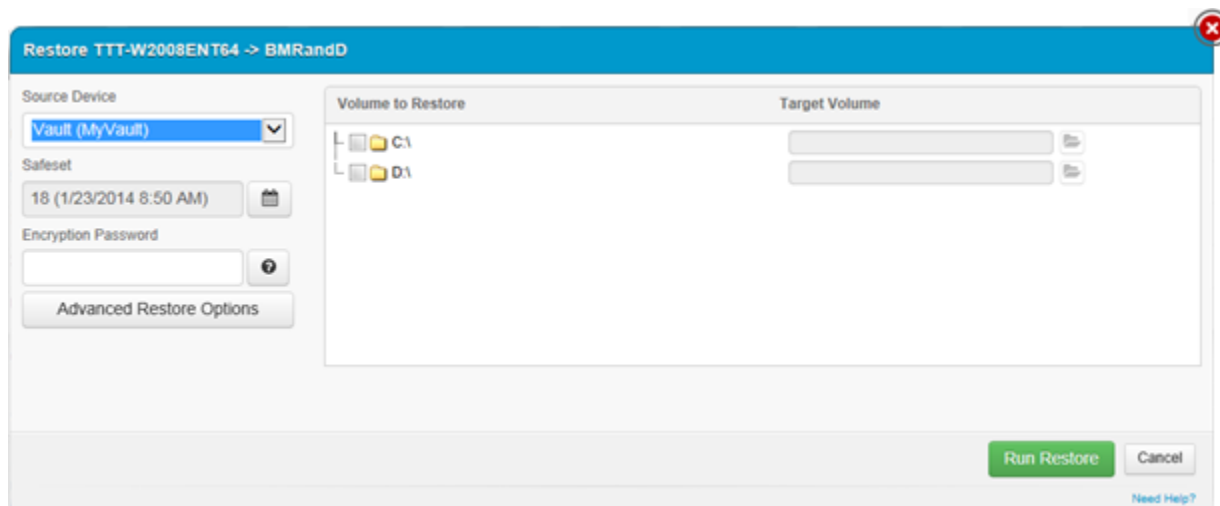
6. To restore data from an older safeset, or from SSI (safeset image) files, do one of the following:

- To restore data from an older safeset, click the calendar button. ⬛ In the calendar that appears, click the date of the safeset from which you want to restore. To the right of the calendar, click the specific safeset that you want to use.

- To restore data from SSI (safeset image) files on disk, select **Directory on disk** from the **Source Device** list. Click the folder button. 📂 In the **Select Folder** dialog box, select the directory where the files are located, and click **Okay**.

SSI files are full backups exported from the vault or backed up from a computer to disk instead of to a vault. It can be quicker to save backup files on physical media and transport them to a location for a restore, than to restore data from a vault in a remote datacenter.

Note: You cannot restore from backups to disk (SSI files) until the safeset is imported into the vault and the Agent is synchronized with the vault.

7. If the **Encryption Password** box appears, enter the encryption password. If you do not remember the password, click the **Hint** button to view a password hint. ❷

8. To change the log detail level or bandwidth settings, click **Advanced Restore Options**. Specify settings in the **Advanced Restore Options** dialog box, and click **Okay**.

9. In the **Volume to Restore** column, select each volume that you want to restore.

10. For each selected volume, do the following to choose the live volume where it will be restored:

    IMPORTANT: Data on the selected volume will be lost when the backed-up volume is restored.

    a. Click the folder icon. ▤

       The **Select Volume** dialog box lists all live volumes on the computer. If you cannot restore the selected volume to a specific live volume (e.g., because the live volume is too small, contains the Windows operating system, or contains Windows Agent software), the volume is unavailable and cannot be clicked.
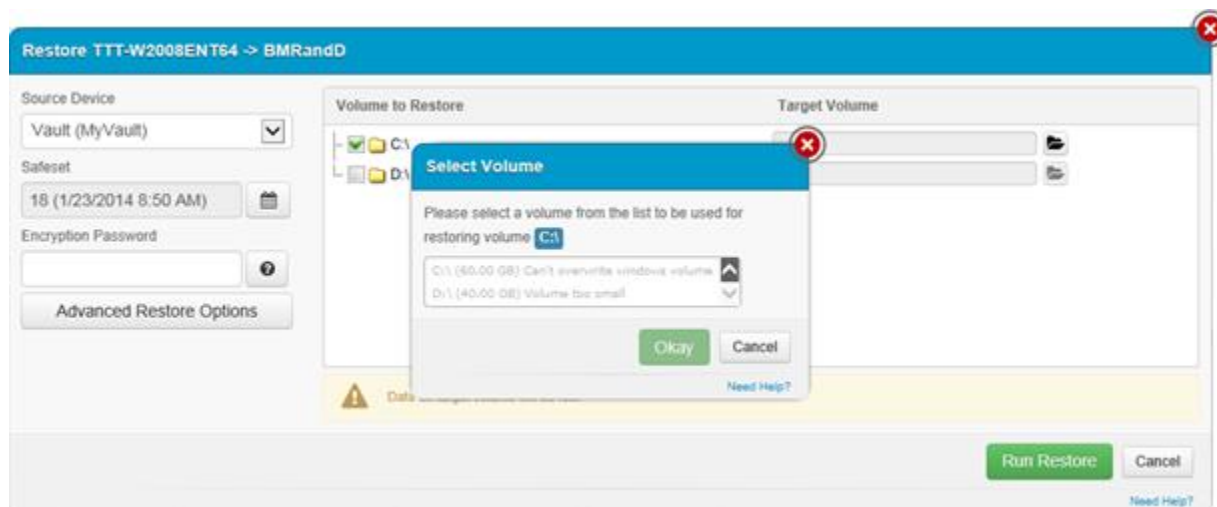
    b. Click the volume where you want to restore the backed up volume.

    c. Click **Okay**.

11. Click **Run Restore**.

    The **Process Details** screen shows the restore progress and indicates when the restore is completed. The target volume goes offline until the backed-up volume is restored.

12. To close the **Process Details** screen, click **Close**. If the restore is running, it will continue to run.

4.2   Restore files and folders from an Image backup

After backing up volumes from a Windows server using the Image Plug-in, you can restore individual files and folders from the backup.

To restore files and folders from an Image backup, you mount volumes from a safeset as drives on the computer where you want to restore files and folders. You can then browse the drives using Windows Explorer, and copy files and folders that you want to restore.

To restore files and folders from an Image backup:

1. On the navigation bar, click **Computers**.

   A grid lists available computers.

2. Find the Windows computer with the Image Plug-in, and expand its view by clicking the computer row.

3. Click the **Jobs** tab.

4. Find the Image backup job with files and folders to restore, and click **Restore** in the job's **Select Action** list.

    Note: You can restore files and folders from any Image Plug-in job.

5. In the **Image Restore** dialog box, select **Individual File or Folders**, and then click **Continue**.
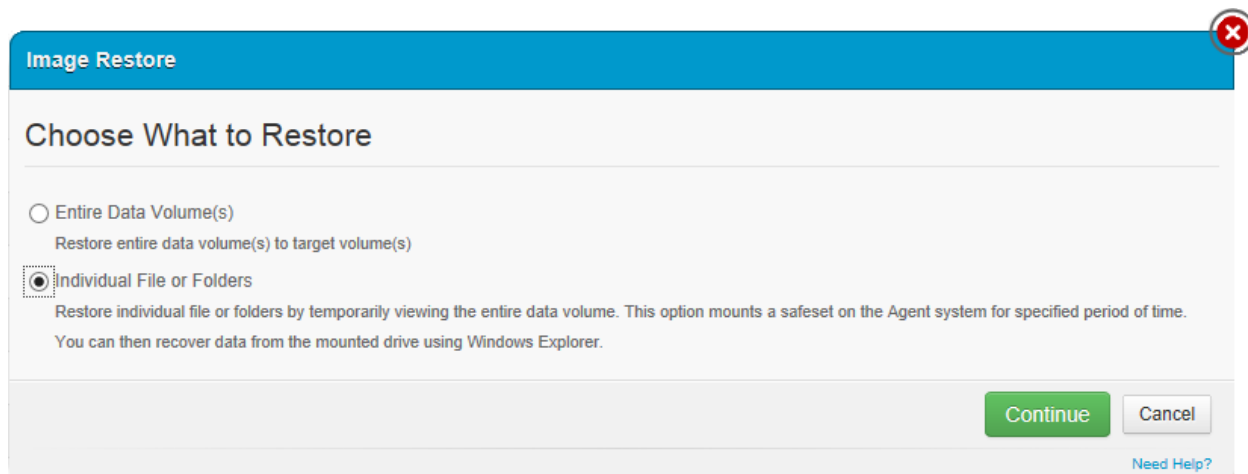

The **Restore** dialog box shows volumes that you can mount as drives. The most recent safeset for the job appears in the **Safeset** box.
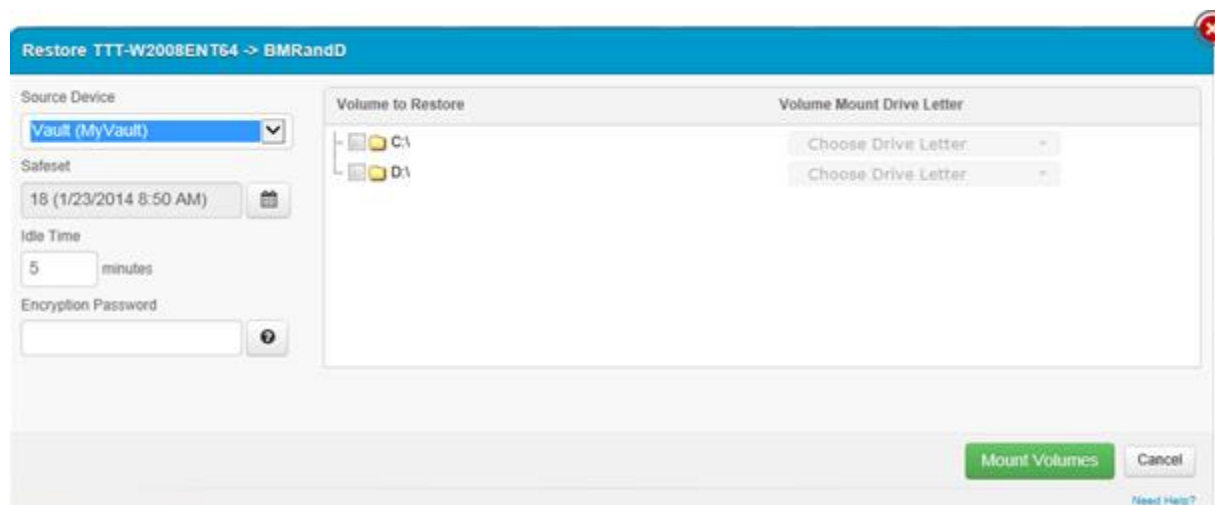
6. To restore data from an older safeset, click the calendar button. In the calendar that appears, click the date of the safeset from which you want to restore. To the right of the calendar, click the specific safeset that you want to use.

7. In the **Idle Time** box, enter the number of minutes of inactivity after which the shared drive will be unmounted automatically. The **Idle Time** can range from 2 to 180 minutes.

8. If the **Encryption Password** box appears, enter the encryption password. If you do not remember the password, click the **Hint** button to view a password hint.

9. In the **Volume to Restore** column, select each backed-up volume from which you want to restore files and folders.

10. In the **Volume Mount Drive Letter** column, choose the drive letter for mounting each shared volume.

11. Click **Mount Volumes**.

12. If a confirmation message appears, read the message, and then click **Continue**.

The **Restore** dialog box shows each volume that has been mounted and its drive letter. A Processing indicator appears while the drive is mounted.
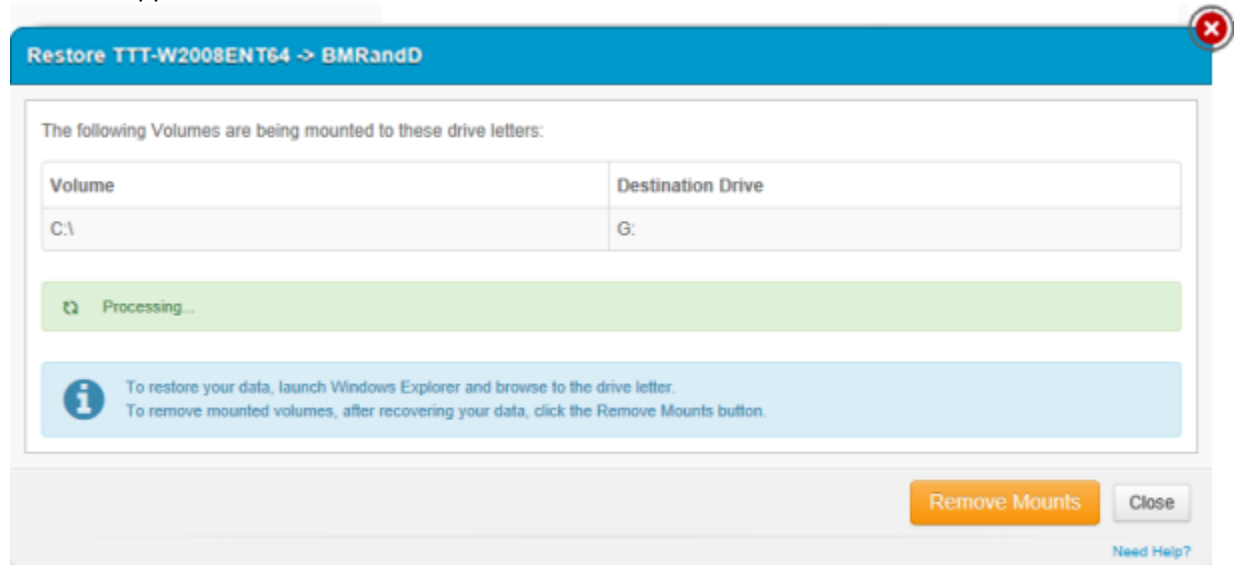
13. In Windows Explorer, navigate to the drive or drives, and copy files and folders that you want to restore.

14. When you are done restoring files and folders, click **Remove Mounts** to remove the mounted drives.

    If you do not click **Remove Mounts**, the shared drive will be unmounted automatically after the number of minutes of inactivity specified in the **Idle Time** box. See Step 7.

4.3   Restore data from another computer

If a protected computer is damaged or becomes unavailable, you can restore some or all of its backed up data to another (similar) computer.

To restore data from another computer, you can redirect data from a backup job on the vault to a different computer with the Image Plug-in.

The new computer then downloads information from the vault so that the data can be restored on the new computer. For example:

- Computer A backs up data using Job A

- Computer B restores data from Job A (computer A's data) to Computer B

To restore data from another computer:

1. On the navigation bar, click **Computers**.

   A grid lists available computers.

2. Find the computer to which you want to restore the data, and expand its view by clicking the row for the computer.

3. Open the **Job Tasks** list, and click **Restore from Another Computer**.

   The Restore From Another Computer dialog box opens.

4. Make selections from the **Vaults**, **Computers**, and **Jobs** lists.

   If the computer that you select has no vault connections, an **Add** button will appear. Click **Add** to set up a new vault connection.

5. Click **Okay** to proceed.

   The software will attempt to download information about the job that you have selected. If the job has not produced a usable backup, the download will fail.

   After the job information downloads, the remaining steps are the same as the steps for regular restores. See [Restore from Image Plug-in backups](#).

   At one point, the software will attempt to download catalog information from the vault. If the vault cannot be reached, the catalog file cannot be retrieved, or the plug-in is not installed on the destination computer, the download will fail. Make sure that the Image plug-in is installed before you try again.

5   Monitor computers and processes

You can monitor protected computers, backups, and restores by viewing status information and logs in Portal.

5.1 View status information

In Portal, you can view status information for protected computers and their jobs.

To view status information:

1. On the navigation bar, click **Computers**.

    The Computers page shows registered computers. The **Availability** column indicates whether each computer is online or offline.

    The **Status** column shows the status of each computer. Possible statuses include:

    - ✅ OK – Indicates that all jobs on the computer ran without errors or warnings.

    - ⚠️ Warning – Indicates that one or more of the computer's jobs completed with warnings.

    - 🔺 Attention – Indicates that one or more of the computer's jobs did not run or had problems.

    - ❌ Unconfigured – Indicates that no jobs have been created for the computer.

2. Find the computer for which you want to view logs, and click the row to expand its view.

3. View the **Jobs** tab.

    If a backup or restore is running for a job, an "In Progress" symbol ♻️ appears beside the job name.

Name	Description	Last Backup Status	Last Run
Job yJob	Job	✅ Completed	today at 9:59 AM
♻️ VMJob	VM Job	✅ Completed	today at 10:00 AM

    If you click the symbol, the **Process Details** dialog box shows progress information for the current backup or restore.

    The **Last Backup Status** column shows the status of the last backup for each job. Possible statuses include:

    - ✅ Completed

    - 🔺 Completed with errors

    - ⚠️ Missed – Indicates that the job has not run for 7 days.

- Deferred

- Never Run – Indicates that the job has never run.

- Failed

To view logs for a job, click the job status. For more information, see View process logs.

5.2   View process logs

To determine whether a backup or restore for a job completed successfully or to determine why a process failed, you can view the job's process logs.

To view process logs:

1. On the navigation bar, click **Computers**.

   The Computers page shows registered computers.

2. Find the computer for which you want to view logs, and click the row to expand its view.

   On the **Jobs** tab, the **Last Backup Status** column shows the status of each backup job.

3. To view log files for a job, do one of the following:

   - In the job's **Select Action** list, click **History / Logs**.

   - In the **Last Backup Status** column, click the job status.

   The **History / Logs** window shows the log for the most recent process on the computer: backup, restore, or synchronization.

   Note: Synchronization is a process that occurs automatically before a backup. The Agent synchronizes information with the vault, to determine which safesets are online.
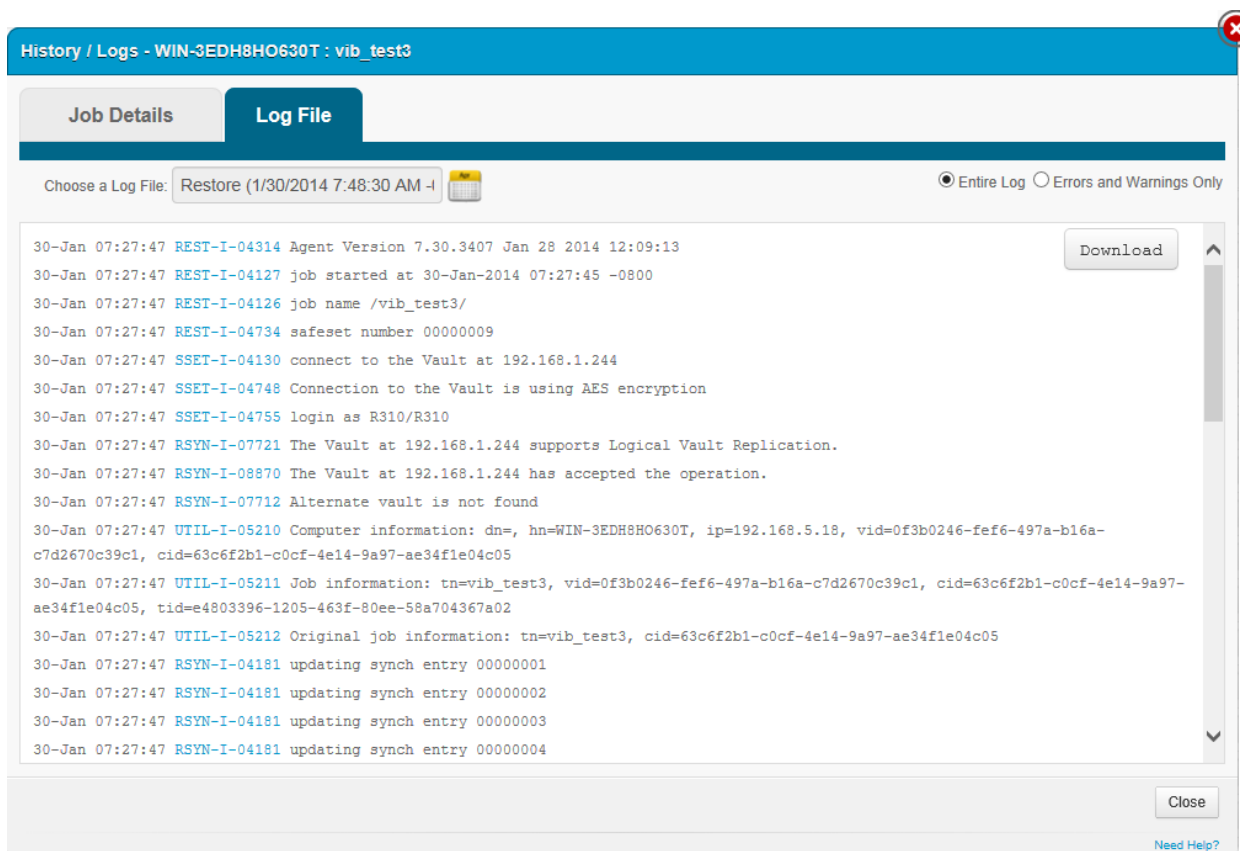
4. To view a log for a different process, click the calendar button. In the calendar that appears, click the date of the log that you want to view. In the list of processes on the selected date, click the process for which you want to view the log.
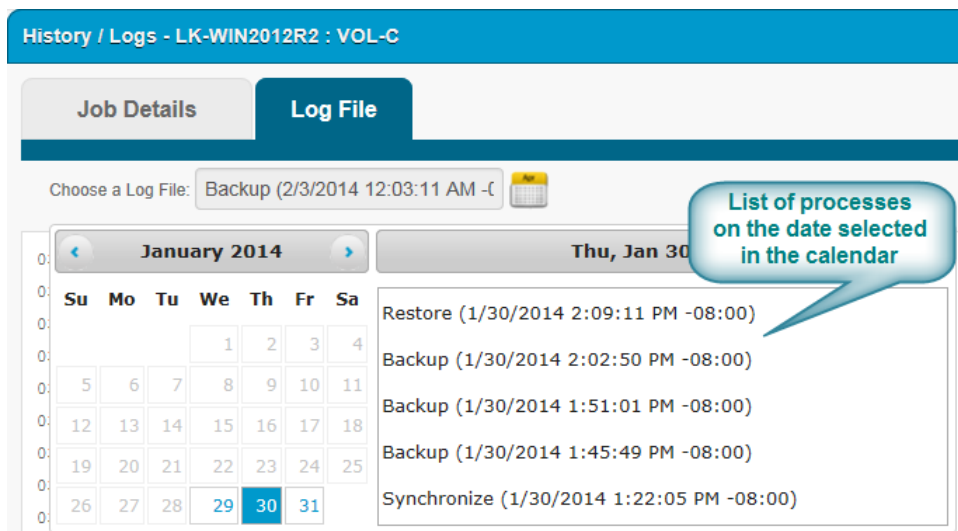
The **History / Logs** window shows the selected log.

5. To only show errors and warnings in the log, click the **Errors and Warnings Only** option at the top right of the window.